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Electronic devices and circuits, especially those in high-power applications, inevitably generate a lot of heat. Without a way to quickly and efficiently dissipate it, devices can easily overheat, causing poor performance, malfunction, or total failure. Heat sinks are a simple, effective way to dissipate a component's heat over a larger surface area and transfer that heat to its surroundings.

Ohmite offers a wide array of heat sinks to meet your device's needs, from single device screw-mounted to large custom extrusion profiles. Many are fitted with our patented clip system, eliminating the use of screws and holes for easier, more streamlined installation. All of our heat sinks include Aluminum Alloy 6063-T5 or equivalent materials and are ROHS compliant.

OHMITE HEAT SINKS

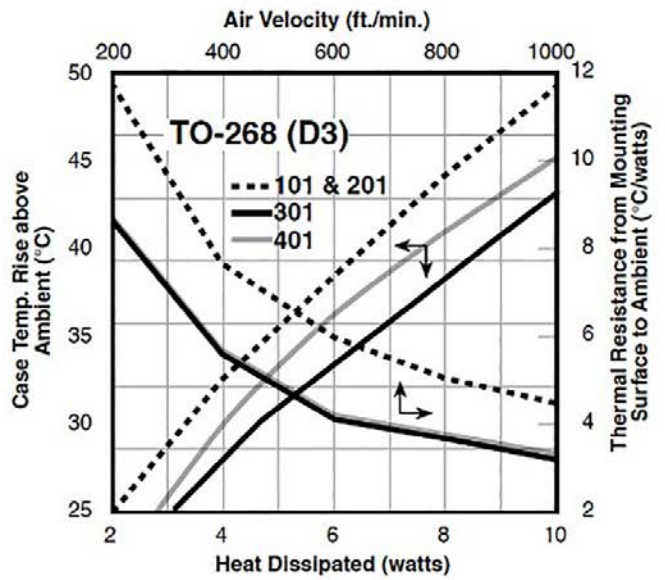
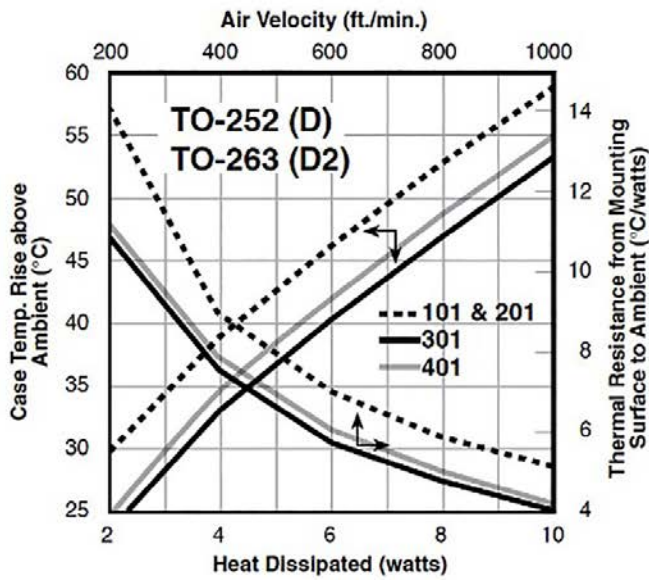
DEVICE SIZE MOUNTED TO HEAT SINK	SERIES
SMD-DPAK-D2PAK Heat Sinks	D Series Heat Sink
TO-220/TO-126 Heat Sinks	C Series Heat Sink CSM Series Heat Sink E Series Heat Sink EX Series Heat Sink F and R Series Heat Sinks P Series Heat Sink VM Series Heat Sink WC Series Heat Sink
TO-247 & Larger Heat Sinks	C Series Heat Sink C-40 Series Heat Sink C-60/B-60 Series Heat Sinks CP4 Series Heat Sink CR Series Heat Sink EX Series Heat Sink F and R Series Heat Sinks HS Series Heat Sink P Series Heat Sink R2 Series Heat Sink VM Series Heat Sink VX Series Heat Sink WC Series Heat Sink C2 Series Heat Sink
LED Lighting Heat Sinks	S Series Heat Sink SV Series Heat Sink
BGA Heat Sinks	BG Series Heat Sink
Thermal Interface Material: Thermal Pads	Thermal Pads for Popular Devices

SMD-DPAK-D2PAK HEAT SINKS

While there are a number of high-power, surface-mounted devices on the market, there are few solutions to dissipate the wattage required for most applications. Ohmite's SMD-DPAK-D2PAK heat sinks are the solution. These heat sinks are extruded rather than stamped, providing the thermal advantage needed in today's high-power circuits.

Series	Package	Mounting Style	Attachment Style	Max # of Devices	Features
D	TO-252 TO-263 TO-268	SMD	SMD	One	<ul style="list-style-type: none"> • Largest surface area on the market with thermal performance up to 300% over aluminum stamped heat sinks • Flat area for easy Pick-and-Place assembly operation • 4 different extrusion designs

HEAT DISSIPATION



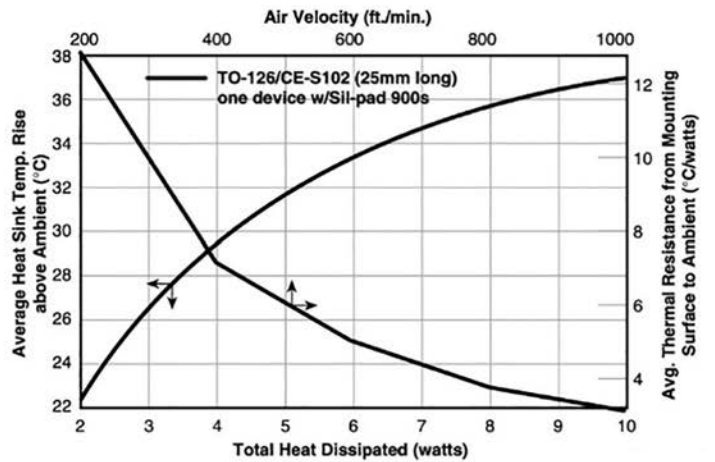
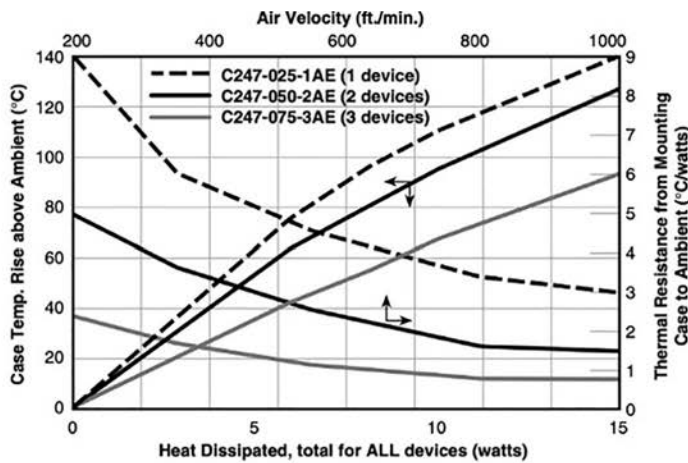
Final thermal performance is highly dependent on the thermal characteristics of the PCB. It is possible to see a 50% drop in temp rise in natural convection with a thermally improved PCB.

TO-220/TO-126 HEAT SINKS

There is a huge selection of TO-220 and TO-126 devices out there; Ohmite has a huge selection of compatible thermal solutions to match. With multiple sizes and configurations available, you're sure to find a heat sink to accommodate your application. Our line includes standard screw mount and patented clipping systems, as well as expandable options and multiple extrusion lengths for group mounting.

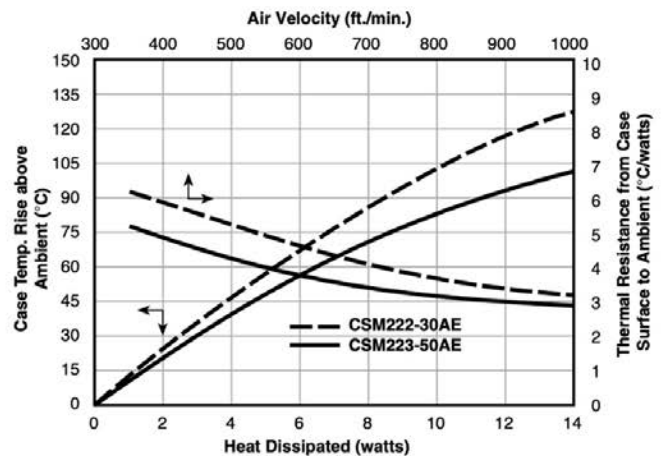
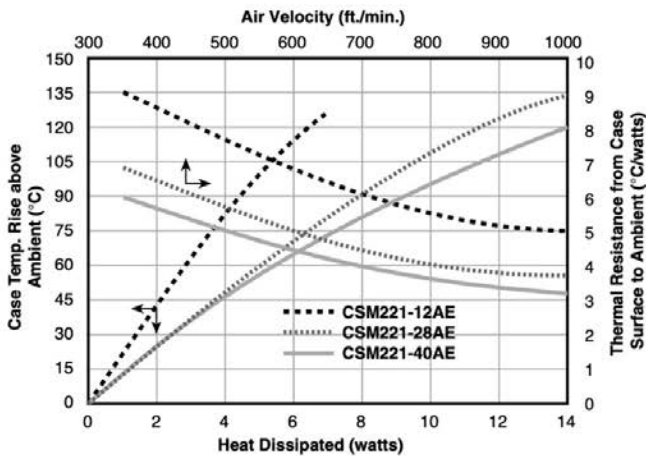
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area (in ² /mm ²)	Features
C	TO-220 TO-126	Through Hole	Clip	3; Custom lengths available for more devices	(TO-220) 11/7,312 – 34/21,655 (TO-126) 10.2/6,559 – 30.6/21,655	<ul style="list-style-type: none"> • Maximum thermal transfer • Design flexibility • Integrated camming clip system

HEAT DISSIPATION | Heat dissipation is the total for ALL DEVICES attached to heat sink.



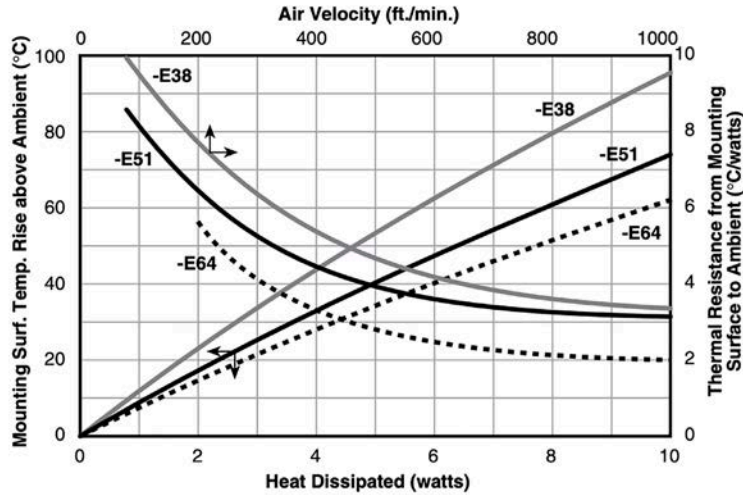
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area (in ² /mm ²)	Features
CSM	TO-220	Through Hole	Screw Mount	Three	(TO-220) 1.84/1,188 – 10.30/6,645	<ul style="list-style-type: none"> • Ability to accommodate multiple devices • Vertical mounting using solderable pins • Thermal resistance down to 9.8°C/W @ 10W

HEAT DISSIPATION | Heat dissipation is the total for ALL DEVICES attached to heat sink.



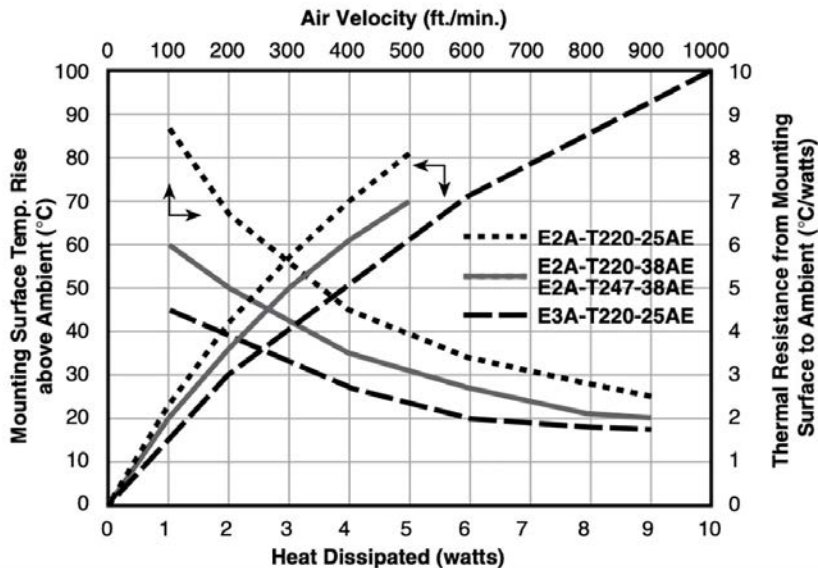
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area (in ² /mm ²)	Features
E	TO-220	Through Hole	Screw Mount	One	(TO-220) 11.5/7419.34 – 18.8/12129.01	<ul style="list-style-type: none"> Vertical through-hole PCB mounting 0.142 in. diameter mounting holes (3)

HEAT DISSIPATION



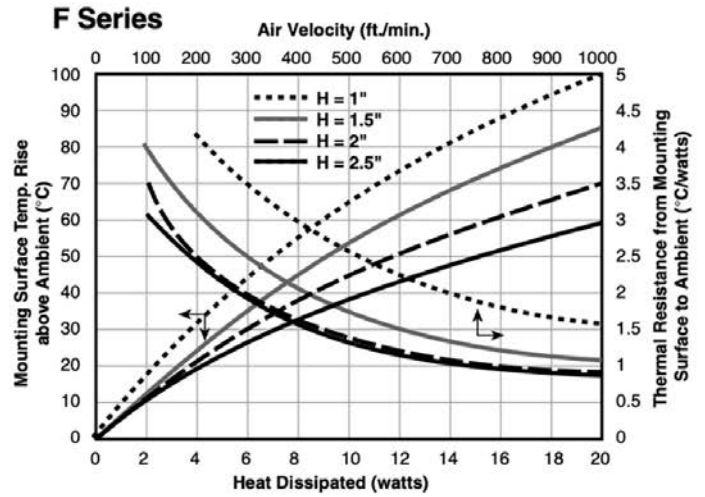
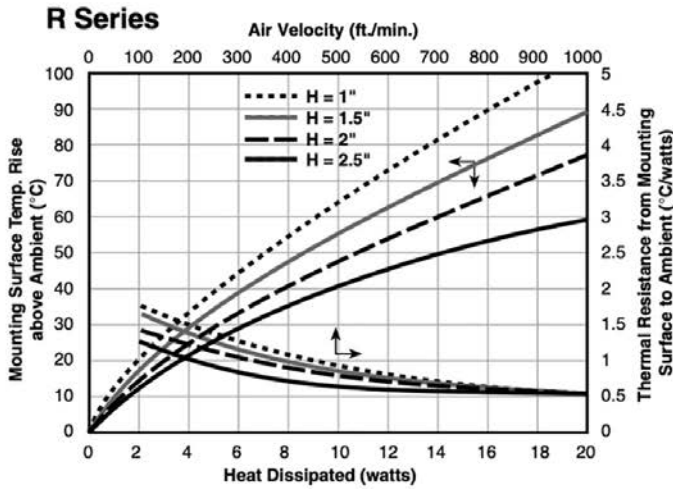
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area (in ² /mm ²)	Features
EX	TO-220	Through Hole	Screw Mount	One	(TO-220) 7.96/5129; 5.30/2419	<ul style="list-style-type: none"> Vertical through-hole PCB mounting E3A-T220-25E has 8-32 threaded mounting hole for a bridge rectifier in D34 type square package Thickened side fins can be used to secure the heat sink to a side wall or to mount TO-220's Threaded mounting holes

HEAT DISSIPATION



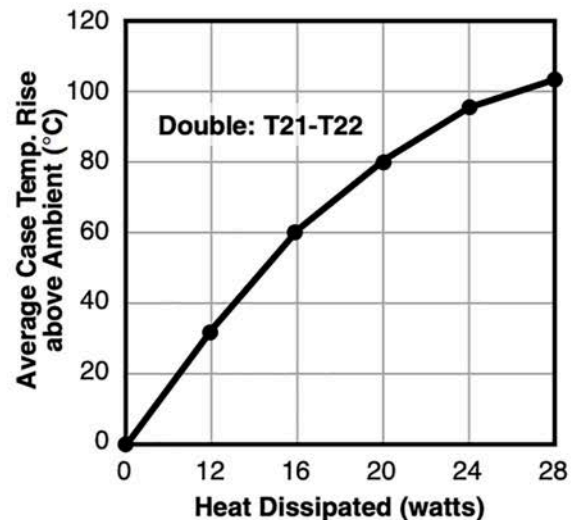
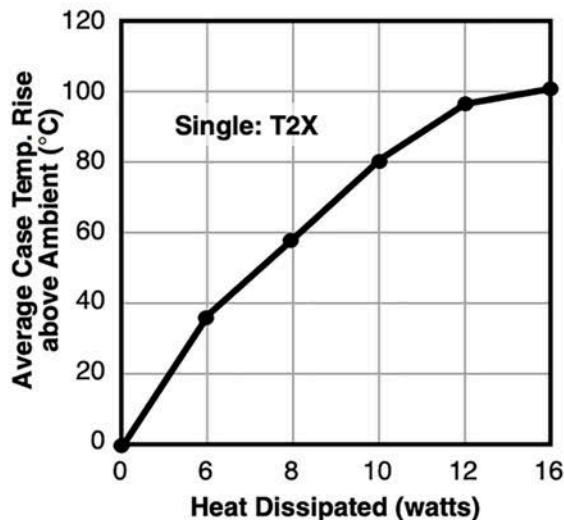
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area (in ² /mm ²)	Features
F and R	TO-218 TO-220	Through Hole	Screw Mount	One	(TO-218, TO-220) 13.8/8,901 – 35.4/22,814	For vertical mounting with solderable pins

HEAT DISSIPATION



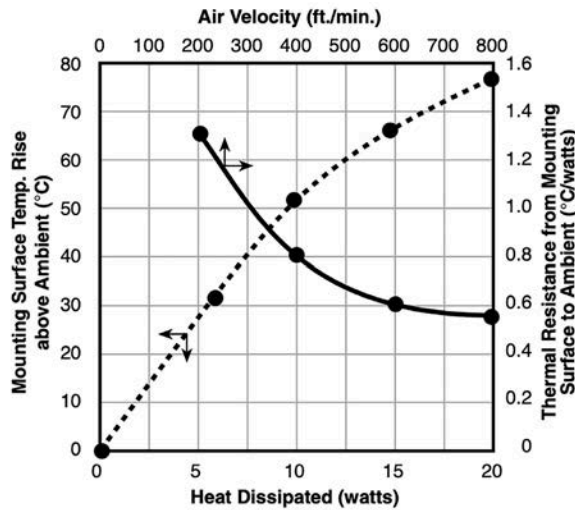
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area (in ² /mm ²)	Features
P	TO-220	Through Hole	Cam Clip System	Two	(TO-220) 13.4/8,675; 23/14,823	<ul style="list-style-type: none"> Thermally efficient pin fin design Pins utilized to create more surface area Airflow can enter from multiple directions

HEAT DISSIPATION



Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area (in ² /mm ²)	Features
VM	TO-220	Through Hole	Screw Mount	One	(TO-220) 39.6/25,546	Vertical or horizontal designs for forced air or free air convection

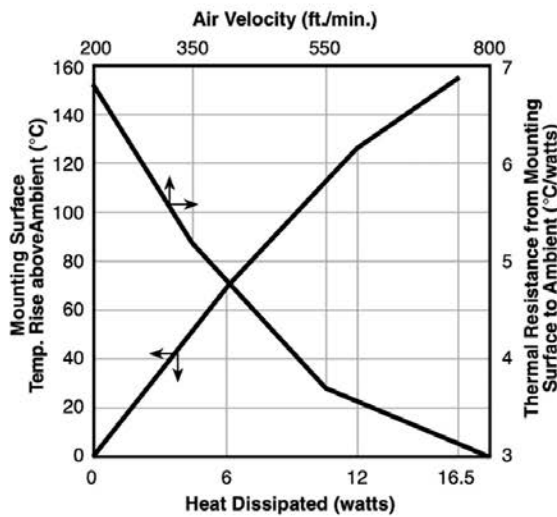
HEAT DISSIPATION



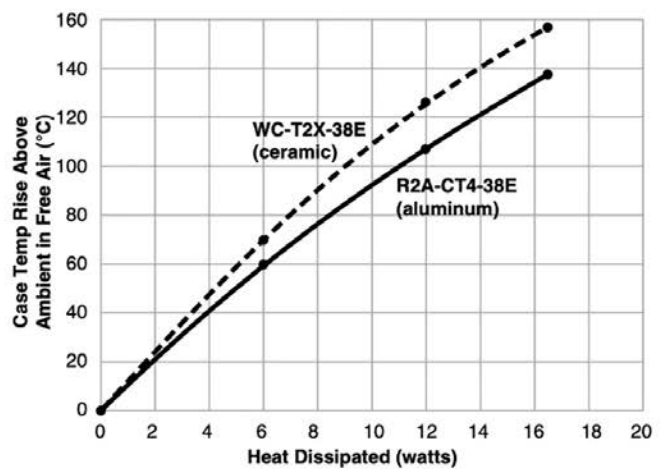
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area (in ² /mm ²)	Features
WC	TO-220	Through Hole	Cam Clip System	One	(TO-220) 17.3/11161.27	<ul style="list-style-type: none"> Reduced assembly cost with cam clip and auto-align Maximum repeatability; maximum resistance to shock and vibration Great electrical characteristics

HEAT DISSIPATION

Heat Dissipation



Heat Dissipation: Aluminum vs. Ceramic

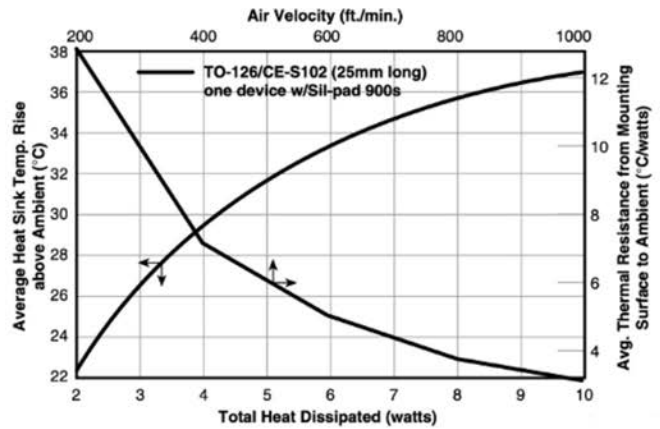
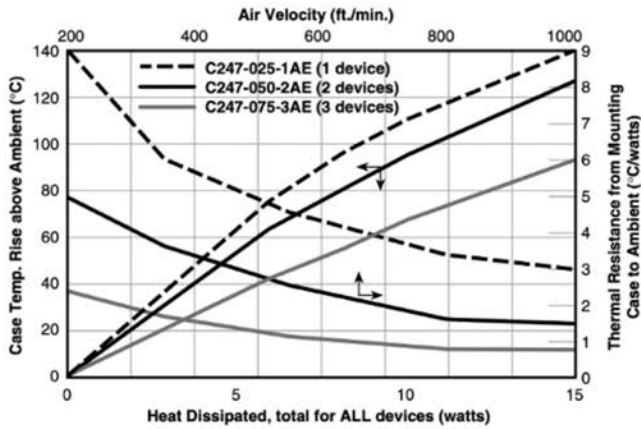


TO-247 & LARGER HEAT SINKS

For devices that require more space and/or greater heat dissipation, Ohmite has a wide selection of TO-247 and larger heat sinks. Select from multiple sizes and configurations already available to meet your application's needs; many of the series in this line also have custom options available. Ohmite also offers expandable options and multiple extrusion lengths to accommodate these larger devices.

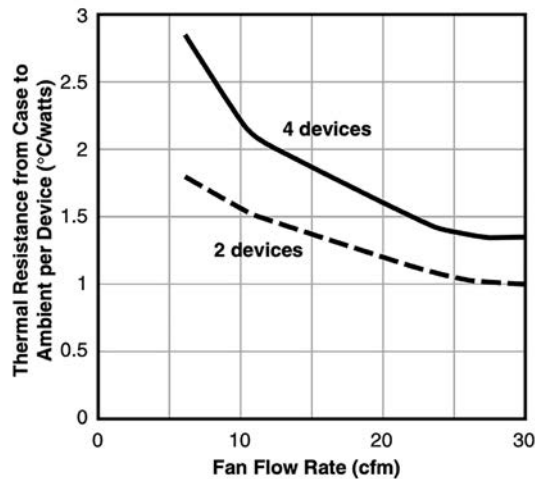
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
C	TO-247 TO-264	Through Hole	Cam Clip System	3; Custom lengths available for more devices	(TO-247) 11/7,312 – 34/21,655 (TO-264) 13/8,774 – 37/24,861	<ul style="list-style-type: none"> • Maximum thermal transfer • Design flexibility • Integrated camming clip system

HEAT DISSIPATION | Heat dissipation is the total for ALL DEVICES attached to heat sink.



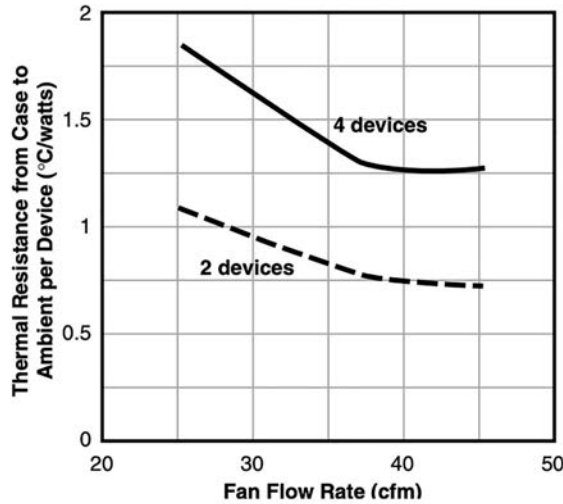
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
C-40	TO-247 TO-264 SOT-227	Through Hole	Clip and Screw Mount	4; Custom lengths available for more devices	(TO-247, TO-264, SOT-227) 63.8/41,180	<ul style="list-style-type: none"> • Custom mounting holes available • Flexible, high performance, and compact • Exchangeable cam clip system

HEAT DISSIPATION



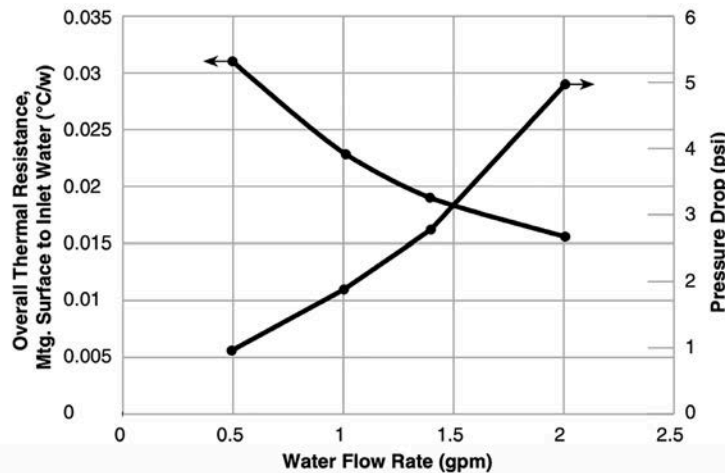
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
C-60/ B-60	TO-247 TO-264	Through Hole	Clip	4; Custom lengths available for more devices	(TO-247, TO-264) 177/114,300	<ul style="list-style-type: none"> • Exchangeable cam clip system for TO-247 and TO-264 devices • B-60 series can be tapped for popular Ohmite resistors or other devices • Can be through hole soldered as a single or dual unit

HEAT DISSIPATION



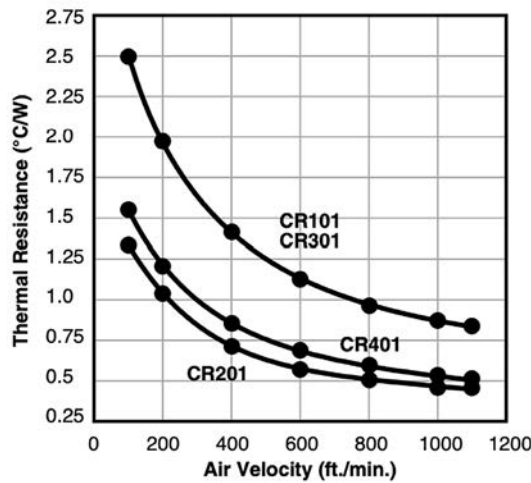
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
CP4	Planar devices, SOT-227 and larger	Chassis Mount, Bolt Down	Screw Mount	One	(SOT-227 and larger) 19.13/12339	<ul style="list-style-type: none"> • Pre-drilled hole patterns for standard Ohmite planar resistors TAP600/ TAP800 and TAP1K0/TAP2K0. • Design flexibility; Chill Plate lengths and mounting hole patterns can be configured • Thermally efficient copper mounting surface

HEAT DISSIPATION | Graph data produced using Ohmite TAP2K0.



Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
CR	TO-264 TO-247	Through Hole	Cam Clip System	6; Custom lengths available for more devices	(TO-264, TO-247) 19.5/12,595 – 110/71,114	<ul style="list-style-type: none"> • Three extrusion styles in four lengths • No tools required to secure device with Cam Clip System • Dual Mount design allows up to six devices mounted to one heat sink • Ability to accommodate multiple devices

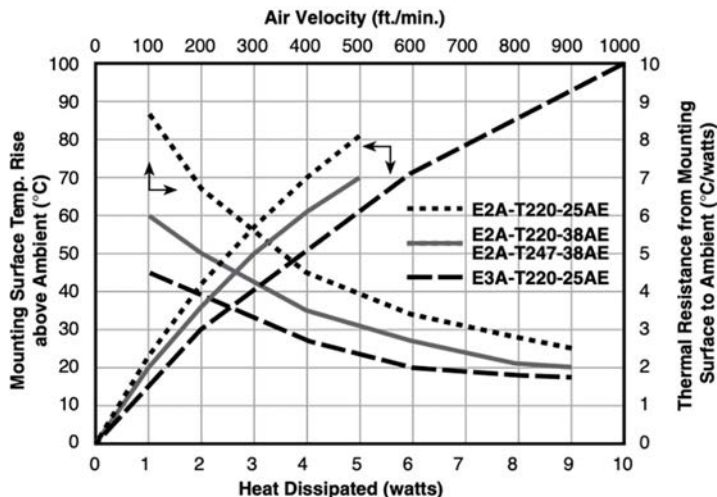
HEAT DISSIPATION



Two TO-247 heat sources uniformly spaced on the heat sink, L= 1.97" [50mm] and total of 10W Power Dissipation

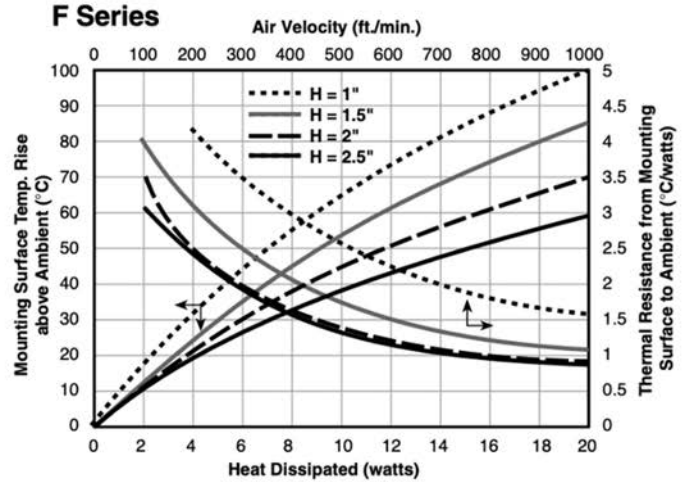
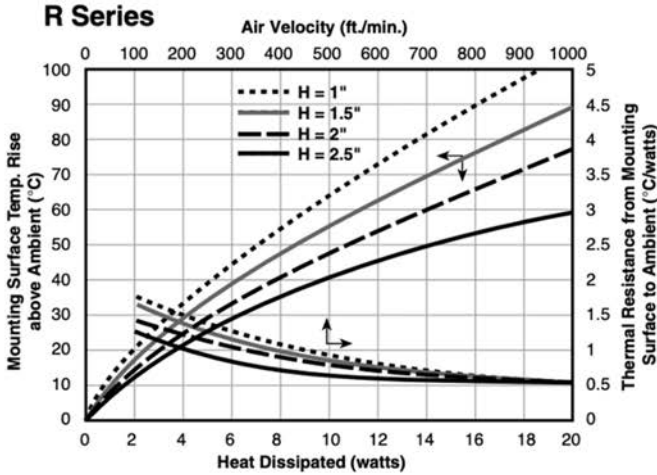
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
EX	TO-247	Through Hole	Screw Mount	One	(TO-247) 7.95/5129	<ul style="list-style-type: none"> • Vertical through-hole PCB mounting • E3A-T220-25E has 8-32 threaded mounting hole for a bridge rectifier in D34 type square package • Thickened side fins can be used to secure the heat sink to a side wall or to mount TO-220's • Threaded mounting holes

HEAT DISSIPATION



Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
F and R	TO-247	Through Hole	Screw Mount	One	(TO-247) 13.8/8,901 – 35.4/22,814	For vertical mounting with solderable pins

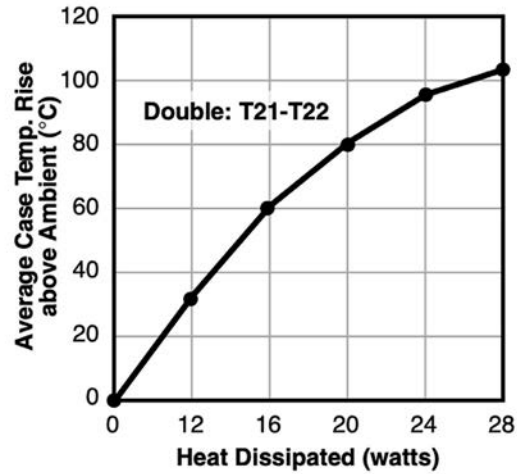
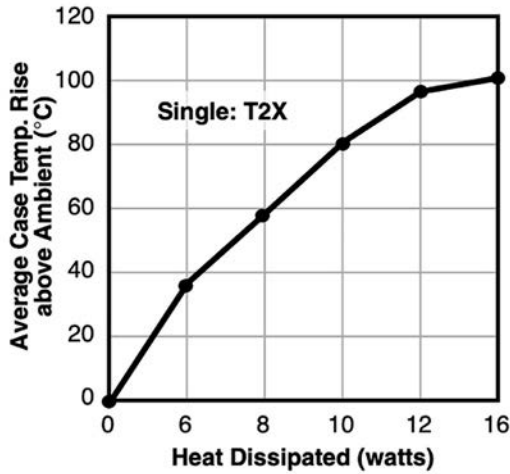
HEAT DISSIPATION



Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
HS	HS300 HS250 HS200 HS150 HS100 HS75 Aluminum Housed Wirewound	Stand Alone, Chassis Mount	Screw Mount	One	–	<ul style="list-style-type: none"> • Three extrusion styles in four lengths • Thermal resistance down to 0.34° C / W • Full customizations available

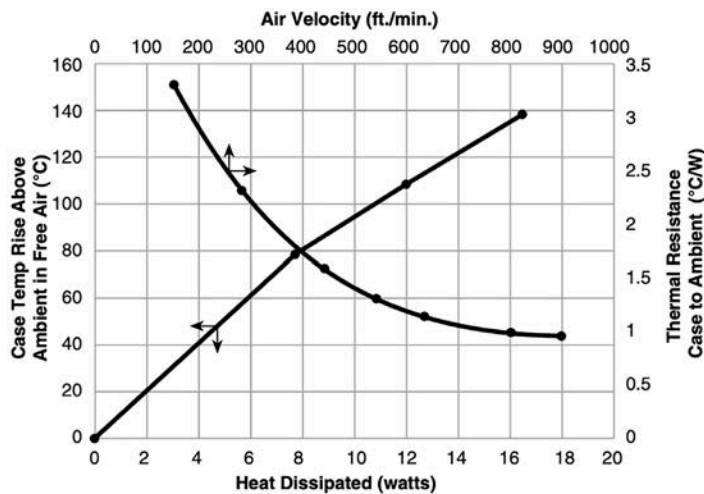
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
P	TO-247 TO-264	Through Hole	Cam Clip System	Two	(TO-247, TO-264) 13.4/8,675; 23/14,823	<ul style="list-style-type: none"> • Thermally efficient pin fin design • Pins utilized to create more surface area • Airflow can enter from any direction • Available in dual configuration for two devices

HEAT DISSIPATION



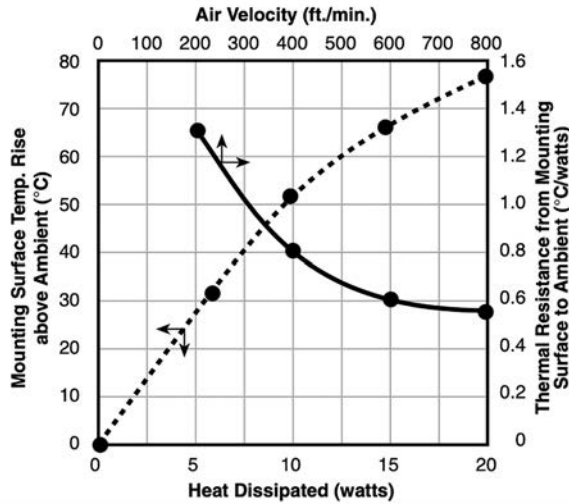
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
R2	TO-247 TO-264	Through Hole	Cam Clip System	One	(TO-247, TO-264) 21/13,579	<ul style="list-style-type: none"> • Reduced assembly cost • Maximum repeatability and reliability • Maximum heat transfer per unit space • Maximum resistance to shock and vibration

HEAT DISSIPATION | TO-247 with no thermal interface material



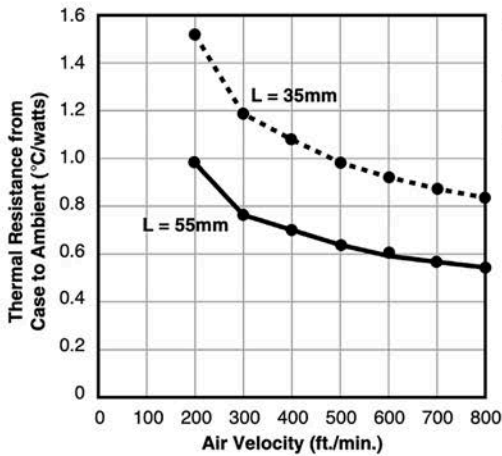
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
VM	TO-247 TO-264	Through Hole	Screw Mount	One	(TO-247, TO-264) 39.6/25,546	Customer chooses a mounting style using screws or clips

HEAT DISSIPATION

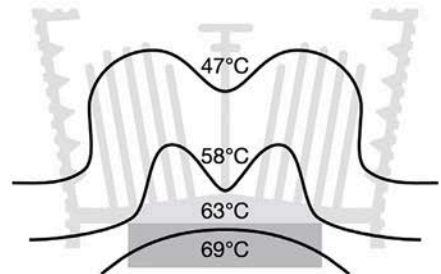


Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
VX	SOT-227, Ohmite TGHE Series	Through Hole	Screw Mount	One	(SOT-227, TGHE Series) 60/38,717	<ul style="list-style-type: none"> • Anodized finish standard, degreased available for order • Pre-drilled hole pattern accommodates SOT-227 devices • Thermal conductivity of 209 W/m-K

HEAT DISSIPATION



- Power dissipation is 100W, single device
- Heat load area 17 x 28mm metal tab
- Ducted air flow

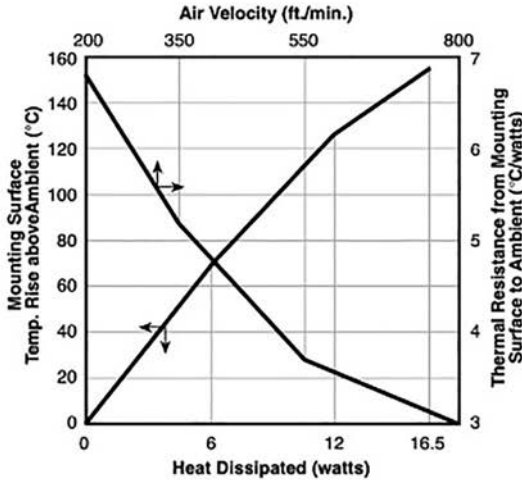


Max. case temp. on SOT-227 (hot spot) is 69°C @ 5.08m/s (1000 fpm) ducted air flow.

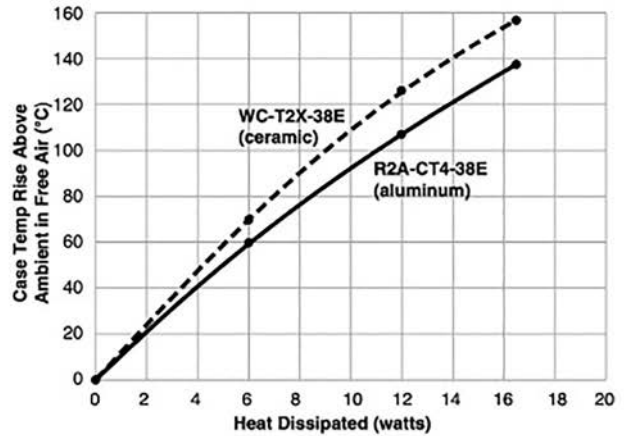
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
WC	TO-247 TO-264	Through Hole	Cam Clip System	One	(TO-247, TO-264) 17.3/11161.27	<ul style="list-style-type: none"> • Reduced assembly cost with cam clip and auto-align • Maximum repeatability; maximum resistance to shock and vibration • Great electrical characteristics

HEAT DISSIPATION

Heat Dissipation



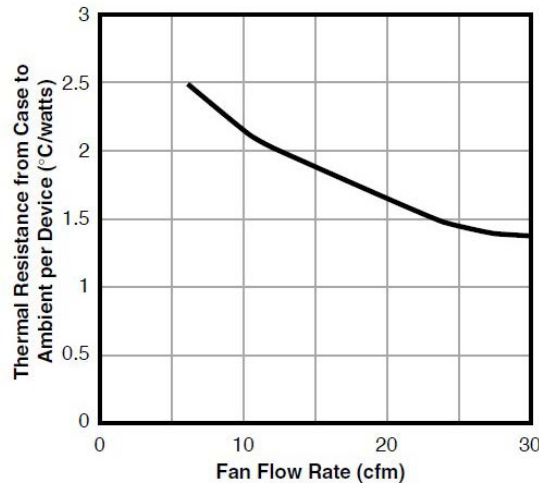
Heat Dissipation: Aluminum vs. Ceramic



Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area	Features
C2	TO-247	Through Hole	Slide-in Clip System	One	(TO-247) 45.6/29439	<ul style="list-style-type: none"> • Very easy devices assembly with no tool and fixture needed • Lower profile, larger surface areas and compatible packages. • Small size, light weight, compact

HEAT DISSIPATION

Heat Dissipation

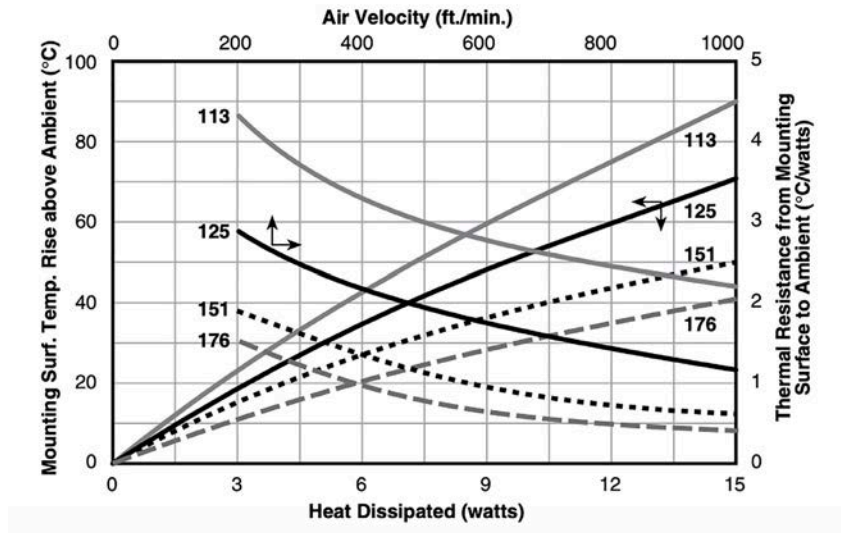


LED LIGHTING HEAT SINKS

Ohmite's line of STAR heat sinks were specifically designed for use with LED lighting applications. LED packaging is commonly arranged in a "star" configuration and need thermal solutions to accommodate this design. With multiple sizes and custom mounting holes available, you will easily find the high-performance, easy assembly heat sink for your LED needs.

Series	Package	Mounting Style	Attachment Style	Max # of Devices	Height & Diameter (in/mm)	Surface Area (in ² /mm ²)	Features
S	"Star" LED	Screw Mount	Screw Mount	One	H: 0.5/12.7 – 3.00/76.2 D: 2.7/69.8	18/11,739 – 108/70,434	<ul style="list-style-type: none"> • Designed for LED modules in a "Star" package • Multiple extrusion lengths • Black Anodized and Degreased finishes available

HEAT DISSIPATION



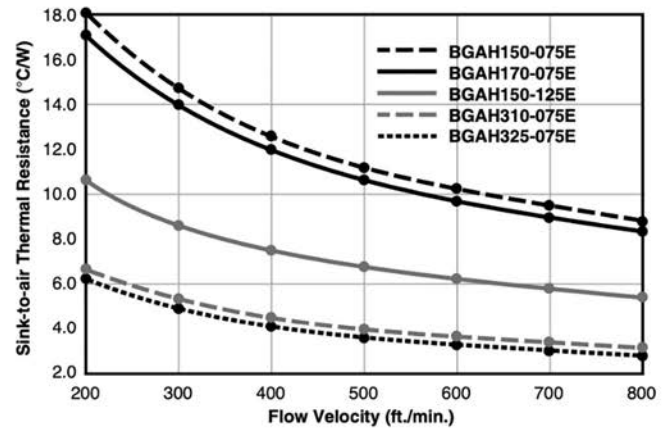
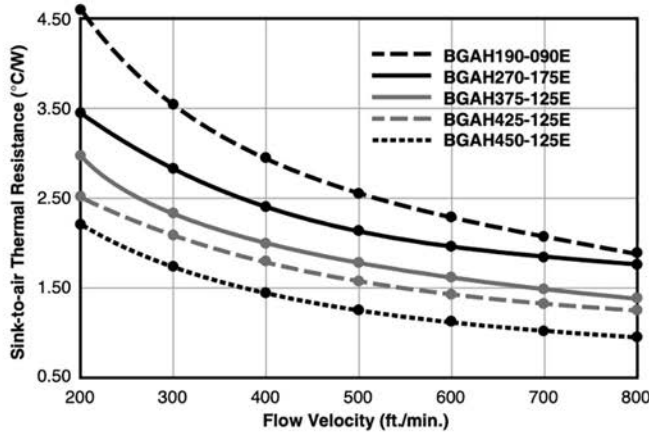
Series	Package	Mounting Style	Attachment Style	Max # of Devices	Height & Diameter (in/mm)	Surface Area (in ² /mm ²)	Features
SV	"Star" LED	Screw Mount	Screw Mount	One	H: 0.55/14 – 0.98/25 D: 21.6/.85	5.3/3,419 – 9.5/6,129	<ul style="list-style-type: none"> • Low cost and easy assembly • Simple mounting with thread forming screws • Can be used in natural (free) or forced convection cooling applications

BGA HEAT SINKS

Ohmite is pleased to now carry a line of heat sink solutions specifically designed for BGA and PBGA applications. Select from multiple sizes and find your low-cost thermal solution for these packages. These heat sinks can be attached to devices with adhesive thermal tape for a seamless installation. Can't find the configuration suited for your application? Custom solutions are available on request.

Series	Package	Mounting Style	Attachment Style	Max # of Devices	Surface Area (in ² /mm ²)	Features
BG	BGA CPU GPU	Thermal Tape	Thermal Tape	One	3.19/2,060 – 32.4/20,893	<ul style="list-style-type: none"> • Available in 10 common sizes • Includes thermal tape for proper attachment

HEAT DISSIPATION



THERMAL INTERFACE MATERIALS

In order to fully optimize the potential of high power heat sinks, most require the use of pastes, materials, or grease between the heat sink and the device. Ohmite has your thermal interface material (TIM) solution. Our TIMs are die-cut to ensure exact fit and reduce module-to-module variation during assembly. They do not require a re-torque, allowing for a simplified and faster assembly process.

Series	Device Type	Typical Thickness	Min. Clamping Force	Operating Temp.	Features
THERMAL PAD	SOT-227	200µm ±20	100kPa (15psi)	-40 to +400°C	<ul style="list-style-type: none"> • Consistent, reliable thermal performance • Easy installation • Minimal outgassing • Will not flow or pump out under any thermal extremes • No degradation in performance • Thermal Conductivity Through-Plane: 7 W/m-K • Thermal Conductivity In-Plane: 800 W/m-K
	Planar- Ohmite TAP series	200µm ±20	100kPa (15psi)	-40 to +400°C	<ul style="list-style-type: none"> • Consistent, reliable thermal performance enabling zero maintenance applications • Will not flow or pump out under any thermal extremes, thermal cycles, power again and power cycling or part orientation • No degradation in performance from initial install and over the life of the application, reducing PM and improving MTTF • Assembly-ready foil form factor eliminates dispensing and cleaning process • Easy installation removes the need for Burn-in or re-torque, enabling a single step install • Minimal outgassing prevents fouling of optics in lighting applications
	ARCOL HS, Ohmite 89 Series	0.5mm	100kPa (15psi)	-40 to 150°C	<ul style="list-style-type: none"> • Excellent Relative Thermal Index (RTI) • Electrically insulating • High conformability • Low durometer • Naturally tacky • UL, RoHS, and REACH Compliant

ABOUT OHMITE:

LEADING THE RESISTIVE PRODUCT CHARGE SINCE 1925

Ohmite Manufacturing Company has been the leading provider of resistive products for high current, high voltage, and high energy applications for over 95 years.

Operations began in a small shop on the west side of Chicago in 1925. Founded by David T. Siegel, the company's focus was to manufacture carbon and wirewound 'lug' resistors for Chicago's growing radio manufacturing industry.

As the world and the electronics industry evolved, Ohmite evolved along with it to service additional aspects of electronic design, including EMI mitigation and thermal management.

We now offer a broad selection of EMI filters, power resistors, ceramic resistors, capacitors, power controls, and heat sinks to worldwide customers in the industrial, medical, military, and aerospace industries.

Get in Touch – We're ready to help you find a solution to your design challenges.

1-866-9-OHMITE | www.ohmite.com/contact/ | F: 1-847-574-7522

Facilities

Warrenville, IL (Headquarters)

Matamoros, Mexico (Manufacturing)

Brownsville, TX (Distribution Center, Product Development)

Headquarters

27501 Bella Vista Parkway
Warrenville IL, 60555 – USA

Toll-Free: 1-866-9-OHMITE
International: 1-847-258-0300
Fax: 1-847-574-7522

Eastern Regional Manager

Brad Burroughs
256-303-0240
bburroughs@ohmite.com

Central Regional Manager

Alma Arroyo
773-251-6678
aarroyo@ohmite.com

Western Regional Manager

Jani Duffy
480-622-6367
jduffy@ohmite.com

Europe and Asia

Darrel Oliver
+44(0)7584 858768
doliver@arcolresistors.com



Ohmite Manufacturing Company

27501 Bella Vista Parkway

Warrenville, IL 60555

P: 866-964-6483

F: 847-574-7522

E: sales@ohmite.com

www.ohmite.com